

CLAIMS

1. An antenna device comprising:

a substrate;

5 a ground conductor provided on the bottom surface of the substrate;

a radiation conductor, with a partial cutout, provided on the top surface of the substrate;

a ground terminal provided in the partial cutout of the radiation conductor;

10 a conductor to connect the ground conductor with the ground terminal;

and

a feed terminal connected to the radiation conductor, wherein the ground terminal and the feed terminal are connected to an IC chip.

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2. The antenna device of claim 1, wherein a slit is provided between the radiation conductor and the feed terminal.

3. The antenna device of claim 1, wherein a width of the radiation
20 conductor differs between in a central portion and in both broad sides.

4. The antenna device of claim 1, wherein the radiation conductor is formed meandering in the central portion and flat in both broad sides.

25 5. The antenna device of claim 1, wherein the radiation conductor is formed spiral in the central portion and flat in both broad sides.

6. The antenna device of claim 1, wherein a dent is formed between the ground terminal and the feed terminal, and the IC chip is embedded in the dent.

5 7. The antenna device of claim 1, wherein a step is provided on a surface of the substrate, and mounted parts of the IC chip including the ground terminal and the feed terminal, and a portion of radiation conductor are disposed on the step.

10 8. The antenna device of claim 7, wherein the step is molded by a dielectric.

9. The antenna device of claim 1, wherein the substrate is provided with cavities internally.

15 10. The antenna device of claim 1, wherein parasitic conductors electrically insulated from the radiation conductor are disposed on the substrate.

20 11. The antenna device of claim 1, wherein the substrate is formed from a flexible material.

25 12. The antenna of claim 1, wherein an insulation layer is provided on one of an entire surface of the ground conductor and a portion of the ground conductor.

13. A radio communication system having one of the antenna device of

claim 1 to 12 to dispose on a metal.